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Virginia Wildlife

Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources and to the Betterment of Outdoor Recreation in Virginia

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COVER: The cardinal brings a flash of bright red to somber winter woods, and a loud, clear, melodious whistle when mild weather hints of spring days to come. Contrary to the usual rule in the bird world, the female is an accomplished singer although her song is more subdued than that of her mate. Our artist: John W. Taylor, Edgewater, Maryland.

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Thanks

THE National Shooting Sports Foundation suggests that hunters and fishermen owe thanks to the timber and pulp companies for progressive programs of opening their lands to sportsmen. The least we can do is to show gratitude by protecting these lands from fires, vandalism, litter, and damage to roads by use of vehicles where signs and barricades have been erected to restrict vehicular traffic.

According to a recent survey, 93.3 percent of industry owned and leased commercial forest land is made available for one or more public recreational activities. More than 95 percent of 234 major forest products firms open their lands for the public to use and enjoy. Corporations in Virginia open 1,375,000 acres for hunting and fishing.

Sportsmen are great about writing letters when they oppose something. How many will take the time to write a forest industry company to say thanks?

The Time For Defiance Is At An End*

THE combination of unselfish ends, rational means and crusading spirit has been brought to the service of nearly every worthy cause which has succeeded in human history. We can settle for nothing less in the service of an environment on this little planet fit for God's creatures to live in.

For centuries one of those creatures, man, struggled to *survive* in the earthly environment, and in time he succeeded; then for centuries he struggled to *master* that environment, and he finally succeeded, perhaps all too well—now he must struggle to avoid the comparatively rapid *destruction* of that environment by his own hand. Almost the whole human race is conscious, concerned and fearful about the potential sudden destruction which a nuclear war would visit upon this earthly environment; but far too few people are as yet conscious, concerned or sufficiently fearful of the accelerating *actual* destruction which man's everyday activities are visiting upon that environment!

Let us both broaden and intensify our programs to inform and educate people of every age group about the glories of nature and about the powers and choices of men in modifying nature. Let us find ways to bring to urban populations a better understanding of their own deep dependence on those very same things which are vital to the existence of wildlife: unpoisoned soil, fresh air, pure water, vast forests and grasslands. Let us imbue national and state leaders and legislative bodies with a sense of urgency, industrial and civic leaders with a sense of responsibility, and the general public with understanding and enlightened concern. Let us give of our best to bring home to every American—and if possible every human—the feeling for the meaning of the quote on the back of our program this evening—"The time for defiance (of nature) is at an end."

*From an address by Doctor Elvis J. Stahr, President of the National Audubon Society.

LETTERS

Male or Female

YOUR cover on the November issue of *Virginia Wildlife* brings to mind a belief at one time held in Eastern United States that the female bobwhite quail usually flushes first. Therefore to pick the male birds to shoot, you should hold your fire and shoot the latter birds to rise. I note that Kent Pendleton's illustration shows the male bird flushing first.

In my opinion *Virginia Wildlife* is tops in its field and does a good job of selling Virginia's natural resources both in and out of state.

Walter H. Mehring, Jr.
Covesville

We have no evidence that either male or female bobwhites tend to flush first, and rather suspect that the last birds to flush are those that just happened to be caught at a slight distance from the rest of the covey when the birds "froze" prior to taking off and thus missed the signal.—Ed.

Explain Game Harvest Figures

WOULD you please explain why total kills tabulated on page 13 of the November *Virginia Wildlife* are not the same as those tabulated on page 19 for the 1965-66 season? For example:

	Page 13	Page 19
Deer	30,755	27,983
Bear	509	246
Turkey	4,539	3,129

F. B. James
Springfield

One set of big game kill figures represented the actual number of deer, bear and turkey checked at checking stations, while the other set was estimated statistically by sending questionnaires to a small cross section of all licensed hunters.

It is expected from a statistical standpoint that the error will be less as the numbers involved in a sample increase, and this is just what appears to have happened in this case. The turkey estimate was much closer to the actual number checked than was the bear estimate, and the deer estimate was closer yet. This indicates that with the small game species where even larger numbers are involved the sampling technique should provide information accurate enough for making management decisions, in the absence of checking station data which we do not get on small game. Where checking station data are available they would be considered more accurate than the estimates as a reflection of the annual legal kill.—Ed.

Bobwhites at home

By LULA P. GIVENS
Christiansburg

BOBWHITE quail have tended to decrease in numbers during the last few decades as modern farming methods have reduced their food and cover.

They are dependent on a type of agriculture for the most ideal habitat—the old-fashioned, primitive type practiced by my father on his unmechanized farm years ago, in which uncut shrubs and old fields provided them with desirable cover, and hand-harvesting left gleanings of grain for food. Perhaps that is why the bobwhite was so much a part of life on my father's farm.

Bobwhite's presence was everywhere. He was a part of every farm activity. Every daily task was punctuated by his call.

Turning the cows out to pasture after the morning milking, we could hear his clear and vibrant whistle, "Bob-bob-white!"

My brothers shouting "Gee-Haw!" as they directed the horses plowing the bottomland heard him. He seemed to say, "Bob-white-bob-white! Your friend is near." They stooped a little less and walked a little brisker as they swung the plow in the black and shining furrows.

After the noonday meal when the men rested for a spell, and the still-harnessed sweaty horses grazed in the yard, bobwhite called again. No doubt he then followed the furrows himself for cutworms and other insects.

When quitting time came, his call seemed to say, "Day is done. Night and rest have come."

Some farmers think the quail's questioning call says, "Poor bobwhite?" in other sections they say he calls, "More wet! More wet!"

But ornithologists say he names himself, "Bobwhite," and as this he is generally known.

Bobwhite has another call with which we were familiar. Some afternoons my mother sat under the apple tree in the yard and strung beans or peeled fruit for canning. I'd sometimes help my mother with the beans or carry water for the wash. More often I sat and looked. The hen, proud of her new brood, walked about and scratched the earth. At her inimitable clucking cry of food found, the chicks, their downy just-hatched bodies as yellow and soft as the dandelion bloom, crowded close.

The dozing cat basked nearby in the sun. It knew better than to take a chick with the hen, which could be a raging fury, so close. Against the palings marigolds and zinnias bloomed, and under the parlor window the bees hummed over the yellow bloom of the rosebush.

My mother might hush our noise, "S-s-sh! Something has scattered the quail. Listen!"

We could hear the tender solicitous notes of their *gathering call*. It sounded like *quoi-lee* or *co-wee*. The birds were being called back to the covey after a raid from some enemy.

Being a part of every day, the bobwhite was definitely a part of every season. Sometimes I'd go with an older sister as she took a mid-afternoon snack to the harvest hands. We would go through the orchard where the catbirds mocked our gay talk, and take the path beside the wheat field which was edged with dog fennel and oxeye daisies.

The heat shimmered over the field and the stubble and bearded grain scratched our legs. My brothers and the other work hands would be red-faced from the sun, their shirts wet with sweat and clinging to their backs. We were welcomed with cries of joy. They put down the scythes and walked away from the binding and shocking.

Commission photo by Kesteloo

The bobwhite is dressed in earth colors. When flattened against the ground he is nearly invisible, so well do his colors match his surroundings.

The men sat or squatted in the stubble at the edge of the uncut wheat. The jug of milk was passed from one to another, as were the ham biscuits and the dewberry pie.

There was much talk and gay banter with my sister and each other. I was teased and my pigtails were pulled. Mingled with our laughter was the bobwhite's call.

Perhaps the father who rested under the chestnut tree in the cemetery heard us and the bobwhite. Surely he must have thought that all was well with his sons and daughters and their neighbors, as they harvested on the farm he had bought and tended with loving assiduity.

With nostalgia I think of this. Brothers and sister and friends who gathered there are gone—and the bobwhite which called. But to this day whenever I hear a bobwhite, I feel again the warmth of the summer sun and hear the gay laughter in that quiet afternoon.

Being a ground dweller, the bobwhite is dressed in earth colors—rust, white, black, and brown. When flattened against the earth, his coloring blends in so well that he is invisible to even the keenest eye.

His home being the earth, he loves its composites: the ground where his nest is hidden; the grass in which he runs so swiftly; the branch water from which he tilts his head in thanks for every drop; the gamey insects in the pasture fields; the wild strawberries on the sunny slopes; the stubble fields where he hides among the shocks and eats the grain left by munificent man.

Best loved of all may be the dark quietude of the fields when day is over and, close against the ground, he and his family circle for the night.

One of my brothers saw them thus. One night while looking for a strayed mare soon to foal, he was hurriedly

taking a short cut across the field, a lantern in his hand. One bird was picked out by the light which caught another and another until my brother made out the ringed circle. A dozen or more bobwhites were sitting on the ground, side by side in a ring—heads out, tails inside the circle. This was a device to protect the covey as a whole. They were ready to zoom away in all directions or scurry into the grass at the first hint of danger. If the enemy should catch them unawares, it could take only one or, at the ultimate, a few. Most would escape. The covey as a whole would remain intact.

The bobwhites remained motionless. They were used to night lights—the moon, the stars, the fireflies. My brother passed on quietly leaving them unmolested.

Ornithologists think that most bobwhites never get ten miles away from the nest where they were hatched, since they are nonmigratory.

Then, as now, winter was the worst time for them. They were sometimes caught by an early, unexpected snowfall followed by sleet. Trapped on the ground the bobwhites either froze or starved.

If instinct warned of the approaching storm in time, they sought shelter in the evergreen forest.

We could see them in the fall and early winter, especially in the stubble fields where the fodder shocks stood. When we missed them there we knew they had gone to the thick woods for refuge.

As a child I have tagged along after my brothers taking wheat and cracked corn to the snowbound quail. I'd stumble in their footsteps as they broke a path through the snow to the pine forest where the cedars with the blue berries grew close to the pines and hemlocks. The evergreen branches were so thick that the ground under them was free from snow.

Pushing aside the downswept branches of a hemlock, my brothers found the quail. They were huddled together, wary, but not scared into flight at our approach. Instinctively, they knew we were not to be feared as much as the enemy famine which the wind shrieked about in the tree-tops and the deep snow foretold. That grim and grisly specter was the most devastating enemy that wildlife could know.

Winter is the bobwhites' worst time; snow, sleet and famine, their worst enemies.

Commission photo by Kesteloo

I had been as close to the quail before as there under the hemlocks, but in happier circumstances. Once my mother had sent me to feed the turkeys in the early afternoon. I had clanged on my pan and called, "Turkey-turkey-turkey!" and scrutinized the fields carefully. No sight nor sound of them.

Wading through the tall grass and weeds I crossed the meadow and came to the maple tree at the edge of the woods where I sometimes found the turkeys.

No turkeys there, but the bobwhites were wallowing in the dust under the trees and throwing it over their feathers. Some were standing or lying on one side motionless in the shade panting through open bills, their wings spread fanwise and dropped away from their hot bodies.

Excited by their nearness, I enjoyed their beauty and contentment for an instant, before they flew away with a great whirring of wings.

The bobwhite belongs to the Phasiani group of gallinaceous birds which resemble domestic fowl. The chicken and turkey are members of this order as are the pheasant, grouse, and peacock.

No two members are exactly alike, but they have many characteristics in common.

They are terrestrial—nesting and living upon the ground—and have the same general appearance. They have heavy bodies and small heads with chicken-like curved bills. Their legs are moderately long. They have strong feet for scratching since much of their food is gotten in this way. Their wings are short and strong, and in the bobwhite there is the capability of flying rapidly for short distances.

The eggs of gallinaceous birds are numerous, rather large and almost entirely white. Among some members the eggs are faintly speckled with reddish brown as are the eggs of the turkey, domestic and wild.

The young of this order are covered with down when hatched. They are able to run about and feed for themselves very soon after being hatched, staying near but not returning to the nest. This is unlike tree-dwelling birds whose young are naked when hatched, nestbound, and entirely dependent upon the parent birds for several weeks.

Some members of the gallinaceous order are polygamous and the males are aggressive, competing fiercely for the females at mating time.

Domesticated game-cocks fight to the death for no apparent reason except that the other is there.

The bobwhite is a species which has the scientific name *Colinus virginianus*. They are monogamous; only in rare instances have they been found to be polygamous. However, at mating time the males do lose their good temper and fight each other until pairing occurs and mating takes place. They then regain their pleasant disposition and settle down to the serious business of raising a family. Nests are usually begun in April or early May.

The average clutch of the bobwhite contains 12 or 14 pure white eggs. After a 24-day incubation period, the chicks hatch out at about the same time and are ready to leave the nest almost immediately. Their coloring is similar to that of a young turkey, or a chipmunk. The young stay together in coveys, wandering about and feeding with both parents in the vicinity of the nest but never returning to it.

When hatched the young bobwhites weigh about one-fourth of an ounce. Wing feathers appear first and the young are able to fly short distances within 10 days after

(Continued on page 22)

Game Management Techniques In Pine Forests

By HAL W. MYERS, JR.
District Game Biologist

ANY modern-day quail or rabbit hunter will agree that newly cleared areas, replanted to pine, provide some of the best hunting available anywhere in Virginia. Very often the hunter and his dog find the going rough in these areas due to site preparation of the area for planting to pine. Clearing is done by several means: clear-cutting, bulldozing, chopping, and burning. From the first growing season these areas usually produce abundant crops of native vegetation, such as beggar's-lice, partridge pea, ragweed and pokeberry. These are preferred quail and dove foods. Unfortunately, after the fifth year conditions begin to change. As the pine and sprout growth grow higher and thicker, the clearing is no longer present. Native vegetation of preferred food varieties is eventually crowded out. When this happens, quail and rabbit populations decrease, and hunters naturally abandon such areas. As solid pine stands progress into maturity, wildlife populations decline from the lack of suitable habitat. Wildlife management techniques are a necessity to compensate for the loss of habitat.

In Virginia, during the 1966-67 tree-planting season, a total of 55 million pine seedlings were planted. Of this total, 50.2 million were loblolly pine, with white pine second, consisting of 4.2 million. On the basis of 650 seedlings per acre, this means a total of approximately 85,000 acres reforested during the year to the various species of pine. Since the planting program started in the state, 568,605,775 seedlings, or 874,778 acres, have been planted. This information was reported by Virginia Forests, Inc., in cooperation with the Virginia Division of Forestry. Many idle, unproductive, and cut-over acres are put back into production by this worthy practice. Pine planting is considered a necessity to the continuance of the timber industry which is so vital to Virginia's industrial complex.

Projected future forest products requirements indicate that many more blocks of pine will replace hardwood stands.
Am. Forest Products Industries

In addition to the 85,000 acres planted last year to pine, the acreage reseeded naturally and by the direct seeding method could run the acreage converted to pine forests well over 100,000 acres. With modern methods of timber harvests, land preparation, and reforestation, along with projected future forest product requirements, there is reason to believe that the acreage in solid blocks of pine will continue to increase in future years as it has in the past half century.

Many sportsmen and game managers have been concerned with this program, because of the vast acreages seemingly lost to the production of the various species of wildlife. Small game (particularly quail and rabbit) are dependent upon the food, cover, and edge effect, which is made available by open lands. This habitat is usually lost within five to ten years after idle lands that were once used for agricultural purposes are reforested. Vast acreages in the eastern part of the state, which were originally composed of mixed hardwood and pine forest, have been converted into solid stands of pine. This also has an effect on habitat requirements of all forest game species such as turkey, deer, squirrels and raccoon. These animals and birds depend, during fall and winter seasons, upon the mast produced by hardwoods as a food supply. The practice of conversion of hardwoods to pine stands is being used by both timber companies and individual landowners. Since companies now control approximately two million acres in eastern Virginia as a result of their recent land acquisition program, the conversion to pine is

much more noticeable on their holdings. It is not an unusual sight from our highways or airlines to see thousands of acres of converted lands. These practices are bound to affect the utilization of these areas by our wildlife species.

Since the first settlers at Jamestown, wildlife in Virginia has been accustomed to change and fortunately has adapted very well to land use changes. However, this acreage that is being converted will eventually affect wildlife populations adversely unless planning and management techniques are put into effect. A forest has been defined as a community of plants and animals living together. It is recommended that the following wildlife management techniques be planned and incorporated into any timber management plan if the landowner is interested in maintaining wildlife populations:

1. Maintain some clearings or openings planted to perennials.
2. Leave selected single mast-producing trees. (oak, hickory, beech).
3. Maintain occasional islands of mast-producing hardwoods.
4. Protect and leave den trees, at least two per acre.
5. Maintain openings or strips of natural vegetation by mowing periodically.
6. Maintain access roads using a daylighting technique (cut back 30-40 feet on each side). Sides can be seeded or left for natural vegetation. These cleared roads serve as excellent firebreaks.
7. Plant trees in rows of ample width to provide for disking or mowing between rows. This technique is recommended on abandoned fields that are reforested.
8. Take advantage of utility rights-of-way and maintain in wildlife food and cover.
9. Develop better habitat in selected stands through the careful use of prescribed burning. Fire, if used properly, can be an effective tool in game management.

As an example of how forestry and wildlife management may be coordinated, we will use the 2,700 acres of Chesapeake Corporation property in Campbell County. This area is open to public hunting under cooperative agreement between Chesapeake Corporation and the Virginia Game Commission. When the agreement was initiated in 1960, certain openings were designated for wildlife clearings and have been maintained through planting and mowing. The remaining open lands on the area were planted to loblolly pine. Except for these designated clearings, the entire area today is considered one solid forest. There are approximately ten miles of access roads on the area which are maintained by occasional grading and mowing. The edges of these roads were seeded to perennials and legumes. Well dispersed with the areas planted to pine are blocks of mature hardwood forests which provide necessary mast and den trees.

Both the Appalachian Power Company and Southside Electric Cooperatives have bulldozed and seeded their right-of-ways through the property. These plantings have provided excellent food, cover and edge for wildlife populations.

On the reforested fields that were originally in grass cover and utilized for hay and pasture, a simple mowing technique has been most effective. In fact, it rates as the most practical and productive game management tool being applied at the present time. A rotary mower is used to maintain a network of trails between the planted rows of pine. This releases the tender grasses and legumes which are normally crowded out by coralberry, greenbrier, and other woody vegetation. These openings provide excellent feeding areas and travel lanes for all species of wildlife present—deer, turkeys, quail and rabbits. Hunters also find access by foot much easier along these lanes, and the chances are increased for game harvest.

All of the management techniques mentioned in this article have been utilized on the wildlife management areas throughout the state, and have proven beneficial. Even on areas where vegetation on only one percent of the total land area is manipulated specifically for wildlife, good game populations have been maintained in forests primarily devoted to the production of timber. Most of these management techniques can be put into effect by careful planning of forestry practices, with a minimum cost of development and maintenance.

Right: As solid pine stands progress into maturity, wildlife populations decline because of a lack of food and cover. Wildlife management techniques can compensate for the loss of habitat. Left: A properly managed utility right-of-way enhances the wildlife carrying capacity of a stand of pine.

Leonard L. Rue III photo

September Squirrels?

By RICHARD B. HAMILTON
VPI Cooperative Wildlife Research Unit, Blacksburg

On September 16 biologists Coggin, Myers, Trumbo, Shaffer, and Gwynn were at access points to Fairy Stone State Park and Game Management Area. This was opening day of squirrel season for Patrick and Henry Counties, where squirrel hunting is a real tradition and opening day turnout is heavy. The hunter bag check is part of a concentrated effort to evaluate the present status of opening dates and squirrel seasons in Virginia. An interesting point about this day's hunt was that an extensive area of public land on Fairy Stone State Park was open to hunting for the first time, a practice very favorable to the hunter during these times when much of the land is not available to meet the increasing hunting demands.

The biologist can obtain some insight into the health of a population by analysis of a hunter bag check of adequate size. As an example of this technique, the results of this bag check are given with the analysis and some conclusions that might be postulated. The general results and average weights by sex and age are presented in Tables 1 and 2 respectively.

TABLE 1. General Information

Total No. Hunters Checked	Hours Hunted	SQUIRRELS Seen	Shot-Lost	Bagged
105	326.5	1005	34	373

—Squirrels bagged per hunter 3.55
—Squirrels bagged per hour hunted 1.14
—Squirrels seen for every one bagged 2.69
—One Squirrel shot and lost for every 11.0 bagged
—Shotgun—principal weapon used

TABLE 2. Average Weights by Sex and Age Class

	Adults		*Spring Young*		*Summer Young*		
	Males	Females	Males	Females	Males	Females	Total
Number	66	92	109	87	9	10	373
Average	472	481	404	403	282	250	Grams
Weights	16.6	16.7	14.2	14.2	9.9	8.8	Ounces

One aspect of this bag check was a record of warble infestation (Table 3). Warbles or "wolves" are the parasitic larvae of a large, hairy fly, *Cuterebra*, that resembles a large housefly. The eggs are laid in places frequented by the squirrels and infection occurs when the newly hatched larva climb on the coat of the squirrel. The maggots grow and develop under the skin of the squirrel. In late summer the fully grown larvae drop out of the squirrel to pupate in the ground and overwinter. The life cycle is completed the next spring when the adults emerge. The infestation prevalence was 13.1% in this sample. Most of these were not actually warbles but the scars left by the emerging larvae.

TABLE 3. Warble Infestation in Gray Squirrels, September 16, 1968

	Juvenile		*Adult*		
	Males	Females	Males	Females	Total
No. Infested	13	13	9	14	49
Percentage	11.0	13.4	13.6	15.2	13.1

Splitting up the kill by age (Table 4) provides important information for the manager. This enables the biologist to determine the contribution each age class makes to the kill. In a healthy, productive population the younger animals usually form the majority of the fall population in all species of small game. If the ratio of young is low, then this is an indicator of poor breeding success or high juvenile loss. A more precise index to productivity is the ratio of juveniles in the fall population to the number of adult females.

TABLE 4. Age Structure for a September Harvest of Gray Squirrels

	Sum. Juv.		*Spr. Juv.*		*Adult*		
	Female	Male	Female	Male	Female	Male	Total
Number	10	9	87	109	92	66	373
Sum	19		196		158		373
Percent	5.1		52.5		42.4		100.0

In this sample of 373 gray squirrels, 42.2% were adults and 57.6% were juveniles. It can also be noted that of the juveniles killed, those produced in the spring breeding season are by far the most important part of the September 16 harvest. The summer young make up only 5.1% of the kill. The majority of the summer young will not be weaned until about the second week in October. This high percentage of juveniles and the overall good condition of the squirrels are indicators of a healthy, productive population capable of withstanding a heavy harvest. The ratio of juveniles to adult females is 2.31, which can be interpreted as that, on the average, 231 young have been successfully reared per 100 adult females. This is good productivity and rearing success for the gray squirrel.

The percentage of females that are lactating or giving milk in the September kill helps determine summer productivity and indicate the possible ill effects of an early hunting season (Table 5). Abundant food conditions through last winter contributed to high spring productivity. An interesting fact noted was that four females born this spring had already produced litters this summer, which is unusual since it typically takes a squirrel one entire year to mature. This youthful breeding is indicative of good conditions. A total of 33 mature females were lactating, which is 34.4%. In 1965 and 1966 bag checks at this time in the same area

showed over 50% of the mature females lactating. In 1967 the percentage was only 22%. These two years of lower lactation prevalence could be interpreted as a decrease in summer production. The alternative interpretation is that the summer litter may have weaned early these years. However, this is unlikely due to the small percentage of summer young in the harvest.

TABLE 5. Lactating Females in the September 16 Harvest

	Spr. Young		*Adults*			
	Females	*Lactating*	*Females*	*Lactating*	*Mature* Females*	*Total Lactating*
Number	87	4	92	29	96	33
Percent	4.6		31.5		34.4	

*Mature females are those capable of breeding.

—An additional two adult females were judged pregnant by palpation.

Now there is the non-enviable problem of deciding if it is best in the wise management of the squirrel resource to open the season when 34% of the mature females are nursing young and the summer juveniles make up only 5% of the harvest. The answer is typical of many biological and management questions; that is, the best solution is different each year depending upon existing conditions. In this particular instance, where spring production was excellent and the percentage of females breeding in this late summer period is only 34%, the early season is justifiable.

It is the duty of the wildlife biologist to recommend season dates based on sound biological data and reasoning which will permit the maximum recreational benefit and still maintain a healthy population. One theory is that the opening date should coincide with the peak of population levels which typically follows the reproductive season. This would put the peak of squirrel numbers in the second week in October with the weaning date of the summer litter. However, squirrels congregated in cutting green hickory in early September, making them vulnerable to the hunter. The question is: Can hunters more efficiently obtain the maximum recreational benefit during hickory cutting or by waiting three to four weeks until the population peak? Experts and squirrel hunters alike take both sides of the argument; the actual answer remains to be proven by conscientiously designed and executed research and not from opinions or "educated" guesses.

One plausible solution is that when spring production is high and summer breeding is down, then the early September season would be optimal. Conversely, when spring breeding is poor (as may be anticipated next spring due to a probable food shortage this winter) and the summer litter becomes especially important to the harvest, then a delayed season (the second week in October) would be best for hunter and squirrel. At present there is no adequate method to predict the relative importance of the two litters well enough in advance to set the opening date in this way. Gray squirrel productivity is closely tied to the availability of nutritious food. If prediction can be made about future food conditions, then inference may be made to squirrel abundance and productivity. This is one approach that may lead to sound opening dates for the gray squirrel in Virginia.

In some areas of Virginia the squirrel season does not open until the start of the general small game season in November. This delay leads to a loss of a valuable outdoor recreational opportunity and a failure to utilize an important game resource. The reasons for this loss are that hunters seek other game at this time of year, the squirrel is quite elusive, and the harvest is very minimal.

Here are some questions that might be asked of the present status of squirrel seasons in Virginia: Why should the early squirrel season be open for only two weeks? Why not leave it open through the general hunting season? Why should adjoining counties have such widely varying season dates? Is this sound management or simply tradition? Why not open an experimental spring squirrel season from May 15 through June 15? From a biological standpoint this would come between the breeding seasons and allow harvesting the spring litter. This would give the sportsman more man hours of recreation as did the spring gobbler season, which is in keeping with the new emphasis on expanding outdoor recreational opportunities.

The personnel of the Commission of Game and Inland Fisheries are presently involved in an intensive effort to evaluate the present status of the squirrel season and determine the best management procedures which will give the maximum recreational opportunity to the sportsman. One of their hardest tasks is to convince the citizen that new ideas and regulations are in his best interest, to give him more hours of higher quality outdoor enjoyment. May this short article contribute towards that end.

When leaves and mast crop have fallen, squirrels are difficult to hunt successfully and the late season harvest is minimal.
Photo by Leonard Lee Rue III

"POP" BAILEY, SENIOR SPORTSMAN

By MAX AILOR
Richmond

W. W. "POP" Bailey, who is spending what he calls part-time retirement in Winchester, Virginia, looked up from studying a Virginia lifetime hunting and fishing license and said he'd look forward to enjoying a lifetime of hunting and fishing.

Pop Bailey already has enjoyed several lifetimes of hunting and fishing in several states. He passed his 102nd birthday last May 12.

The 1968 General Assembly passed legislation which made it possible for the Commission of Game and Inland Fisheries to issue a "lifetime" hunting, fishing and trapping license at a cost of $5 to any resident 70 years old. Pop Bailey probably is the oldest person who will ever receive such a license.

The new license, presented to Bailey by hunting and fishing friends and relatives, helps the Winchester resident to complete the circuit.

"Well, I used to go hunting and fishing for nothing as a young man in West Virginia and Ohio," he said. "I paid 50 cents for my first license. I've paid as much as $40 for a license to hunt deer and $50 for an elk hunting license out in Pittman County, Colorado."

Del. F. L. Largest, Jr. (right), and Robert W. Pierce, hunting and fishing companions, present W. W. "Pop" Bailey with lifetime license to hunt, fish and trap. At 102 Pop Bailey probably is the most senior Virginian who will ever receive such a permit. Residents become eligible for the $5 lifetime license at 70 years of age.

There is no doubt among his friends that Pop Bailey will get full use out of his new license though there may be visitors who will meet the area's oldest citizen for the first time and doubt that he is old enough to own such a treasured item.

Pop Bailey is spry and will walk the mountains of the Shenandoah with the best of outdoorsmen. He continues to fish every chance he gets.

His eyes sparkle when he talks of his hunting experience, and he teased a bystander a bit when that man, almost a third of Bailey's age, started digging into his pocket for a pair of glasses to read the fine print on the new license. "I'll read it for you," he said. He laughed.

"He's proud of his eyes," said his daughter-in-law, Mrs. Irene Bailey. "He loves to play bridge with my club and all of the women wear glasses. He makes fun of us because we have trouble seeing the cards."

Bailey stays in trim and has the light step of a man of younger years. Yet, as one of the largest owners of an orchard in West Virginia, Pop Bailey retired as a formal agriculturalist at the age of 53. That was back in 1920. Since then, he has been active in hunting, fishing and home gardening.

"He doesn't believe in eating too much," said the daughter-in-law. "He loves coffee but he limits himself to one cup at each meal. And he doesn't believe in drinking or smoking. He lives a good life."

If there are any doubts among outsiders about Pop Bailey's age because he has good eyes and is spry and strong, doing a complete day's work every day, there is none among the residents of Winchester. Family birthdays are a big affair and when a man reaches the century mark it draws a lot of attention. Pop Bailey celebrated his 100th birthday by completing the concreting of steps for a rock garden he built behind his home. "He carried the rock here to complete the garden from a road construction site," said the proud daughter-in-law. "He raises yews and chestnut trees. That's an expression of confidence in his life. He just started a new planting of yews which he plans to sell three to five years from now."

When Pop Bailey celebrated his 102nd birthday last May there was a big party—large enough that Charles C. Bailey, who is 85 years old, drove alone from Cleveland, Ohio, to be with his brother. Also living are two sisters, Mrs. Cora Pultz, 91, who lives in a nursing home in Ohio, and Miss Ella Bailey, age 87.

Pop Bailey was born in Maryland across the river from Keyser, West Virginia. He later lived in Romney where, as a young man, he learned of hunting and fishing and conservation. As a boy he found a job in the construction of a fish hatchery near Romney and continued to do odd jobs assisting fishery officials in surveys and fish stocking along the Shenandoah River.

When he had his orchard, Pop Bailey did more deer hunting and rabbit hunting than at any other time in his life. "I used to wonder whether he had the orchard to attract deer for hunting or whether he raised apples for the rabbits," said Mrs. Bailey.

Pop Bailey hasn't hunted deer in two years. "I couldn't climb to the area where the hunters expected to find deer. I took a stand down low and no deer came that way. I watched squirrels for a while and shot a couple for a stew," he said.

"Pop doesn't believe in wasting game or fish," said Mrs. Bailey. "He takes only what he knows we will eat. He loves fish."

Pop Bailey doesn't have trophies around. He eats the fish he catches. He once kept an elk head from an animal he killed on his last western hunt when he was 85. "We used to ride horses into the hunt country." He gave that mount to a Baltimore hunt club. Its hunters used to come to the mountains to hunt with the oldtimer. He also had the head of a 10-point deer he killed, but his son in Florida needed it for a den.

Pop Bailey had about quit hunting. But now that he has his new license, which is good also for big game, he figures he can afford to do more hunting around the home. He says he can see game.

That's pretty good for an oldtimer who does not need glasses and who reads every outdoor magazine he can get his hands on at anytime of the year. As a youngster he had a disease which specialists said would cause him to go blind. But a country doctor treated him with a tea from a yellow dock root. The young Bailey made a rapid recovery and since has never been bothered with his eyes. He continues to raise yellow dock in his rock garden, just in case.

Pop Bailey points to some yellow dock root he grows in his rock garden. He once was considered to be going blind until treated by a country doctor who fed him tea made from the roots of the plant. At the age of 99 he started building the rock garden, where he grows the yellow dock just in case the old ailment returns. At 102 he reads, plays bridge, and watches television, and does not need glasses.

Birds of Ill Omen?

By ILEEN BROWN
South Boston

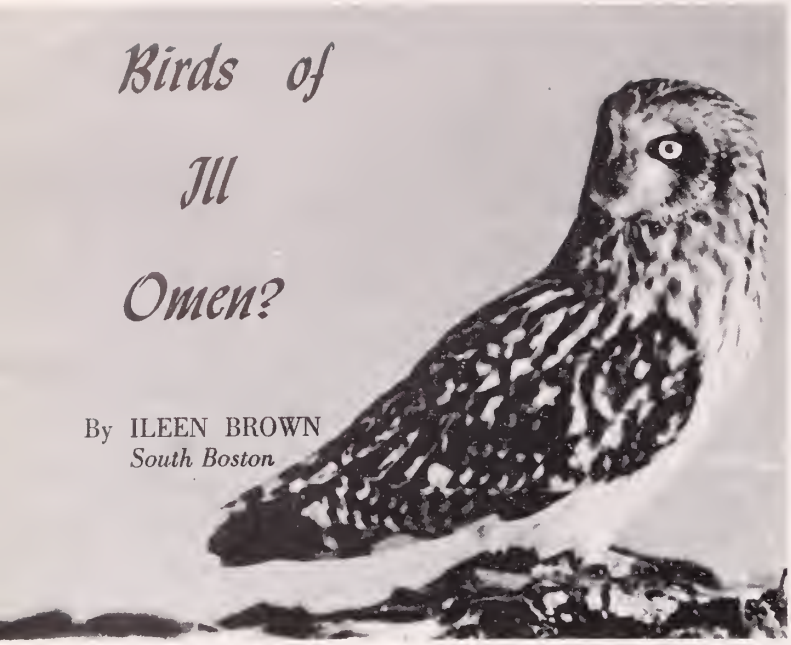


Photo by Leonard Lee Rue III
Short-eared owl

THE moon is on an upward swing and owls are rendering their nightly chorus. For those who subscribe to superstition, it is a time of foreboding. The crazy laughter, hoots, whistles, and strangled calls that make up an owl's vocabulary during the courtship period, probably account for their reputation as birds of ill omen.

There are more than 130 species of owls around the world. The sparrow size elf owl that makes its home in a saguaro cactus in the desert, is the smallest. Insects, mice and other small mammals make up its diet.

One of the more well-known owls is the screech owl. It is found throughout the world. It has erect tufts of feathers above each eye that can be raised or lowered at will, and the soft plumage is a reddish or grayish color. The sex or the age of a screech owl does not determine the color. Often young birds of one brood will exhibit different coloring. While screech owls have a preference for woodpecker holes, they sometimes will accept man-made bird houses if the entrances are large enough.

Screech owls, like most of their relatives, move swiftly and noiselessly. While it is possible to lure one closer by imitating its call, it is easier to see one outlined against the sky than to hear the movements of one.

Sally Carrighar, in her book *Wild Heritage*, tells of a great gray owl whose care she inherited from a naturalist. The owl, who was free to lead his life among his friends of the woods, was fed several mice each afternoon. One morning while she was gathering small stones for another project, the owl seemingly appeared from nowhere, and took the stones from her hand and flew to a nearby bush without her actually seeing his movements.

Barn owls are considered by many to be the most useful of owls. The monkey-faced owls are a beautiful variegated buff and gold. They prefer to nest around man-made structures such as farm buildings and church steeples, but they will also nest in hollow trees. The barn owl's diet is made up mostly of mice and small rats. It is not unusual to find at least a bushel basket of rat skulls near the nest while they are raising a family of young.

The great horned owl is a larger version of the screech owl. It has the same type ear tufts and yellow eyes. This powerful owl is capable of killing large birds and mammals, and is the only owl that is a real threat to game and poultry.

Rabbits furnish the bulk of the great horned owl's diet, but they will also attack skunks, and have been known to eat young porcupines. While the great horned owl is active at night, it also sees well by day. On dark winter days it will hunt in the late afternoon.

It lays its three eggs in nests once belonging to squirrels, crows, hawks, and in cavities of trees and rocks.

Most owls do their hunting at night and remain in hiding during the day. It has been noted that the fading of daylight determines the time they start their foray. Their soft plumage and the fact that their flight feathers have fragile filaments make it possible for owls to slip up on their prey almost in total silence.

They use their talons to seize and grasp their victims. Owls bolt their food whole, and the indigestible parts are then coughed up as pellets. The pellets of each species of owl is so different that it is possible to identify the species of owl from the pellets. While they use their eyes to spot food, an owl's hearing is so keen that experiments have proven they can locate small mammals in total darkness.

Owls quite often nest in the same place year after year. Roger Tory Peterson, in his book, *Birds Over America*, tells that from 1880 to 1926 owls inhabited a church belfry in Flushing, New York. Also an owl egg was taken from the northeast tower of the old Smithsonian building in Washington over 100 years ago, and barn owls have lived there ever since.

While owls lay their eggs at two to three day intervals, incubation starts when the first egg is laid. So there may be a week or more difference in the ages of the young in a single brood. Therefore, it's a simple matter to age them by size.

I saw my first baby owls when I was a child and at home on the farm. My father found the nest of three babies in the hollow of an uprooted oak tree, on the far side of the farm. He was so anxious for his girls to see the fledglings that he left his work and walked a total of almost two miles to get us. I have some question as to the identity of this owl family, but because of the location of the nest and the number of the young, I believe they were great horned owls.

In the winter many species of owls roost together. Sawwhet, one of the smaller owls, whose notes sound like the filing of a saw, gather in evergreen trees. Short-eared, one of the few owls that prefer open marshes and prairies, will gather in groups on the ground.

Screech owl
Photo by Leonard Lee Rue III

While owls seem to be sedentary, they are known to wander some distance. A screech owl banded at Glenwood, Minnesota, was recovered nine months later 180 miles south. However, it is believed these flights are more for search of food or to escape an enemy, than true migratory trips.

VIRGINIA WILDLIFE ☆ ☆ ☆ ☆

CONSERVATIONGRAM

Commission Activities and Late Wildlife News . . . At A Glance

ENDANGERED WILDLIFE PROTECTION PLAN LOST. Apprehension about adverse voter reaction, stimulated by organized labor's last-minute objections to a widely supported plan to help spare rare and endangered wildlife from commercialization, apparently was the factor that discouraged the U.S. Senate from clearing the bill for the President's approval this year, the Wildlife Management Institute reports.

The plan was approved by the House early this year; the Senate Commerce Committee held public hearings on it in late July. There was no publicly expressed objection to the bill; conservationists were assured that it would be only a matter of time before the measure was sent to the Senate floor for a vote. Still nothing happened, and conservationists belatedly discovered that the trade unions, furriers, and pet dealers were heaping last-minute protests on members of the committee. Furriers and pet dealers were concerned about loss of business, and union representatives feared a loss of jobs. No consideration apparently was given to the fact that these may come about when the endangered wildlife on which this sometimes illegal trade depends are decimated completely.

The Senate committee finally approved the bill in the closing hours of the session. It was placed on the Senate calendar, but never was called to a vote, a development which made it impossible to identify the opponents to the plan.

ARCHERS' SUCCESS LOW ON REFUGE HUNTS. Archers bagged 26 deer during special archery hunts on two National Wildlife Refuges in Virginia during October and early November, a considerably poorer success than they enjoyed on the same areas last year. During the 4 day archery only hunt on the Chincoteague National Wildlife Refuge on Virginia's Eastern Shore, bowhunters downed only 3 deer, all of them sikas even though whitetails were also legal this year. Gun hunters took 45 sikas and 7 whitetails on October 25 and 26. Eight of the sikas were reported to be six pointers, which puts them in the rare trophy class. The largest whitetail weighed 110 pounds. Archers put in 157 hunter days while gunners invested 581 hunter days in search of their elusive quarry.

On Presquile National Wildlife Refuge, near Hopewell, a total of 211 hunters took 23 deer in 8 days of bow hunting, slightly over half the number bagged last year. As usual, the first day's hunt was most productive yielding 12 deer, most of them bucks. During the second hunt 6 whitetails fell to the bowhunters' arrows. Even though the number of deer on the Island was considered about equal to last year's population, they seemed to be far more wary following a season of hunting pressure. Heavy fog present during two of the hunts is credited by some with spooking the deer and reducing the kill. Hunters were selected on the basis of a drawing in September at which time nearly 100 hopeful applicants were turned away after the 300 available hunting permits had been filled.

TROUT STOCKED IN VIRGINIA LAKES. Over 100,000 rainbow trout were stocked in three of Virginia's larger lakes suitable for trout production during December. The seven inch trout will nearly double their size by next spring and early summer when most are caught. Smith Mountain Lake received 66,000 trout, Philpott Reservoir 28,000, and Carvin's Cove Reservoir 6,400.

The trout used in the reservoir stocking program are surplus at the hatcheries as a by-product of the regular put-and-take trout stocking program. When the trout are thinned in the hatchery ponds to make room for normal growth, these extras are placed in the reservoirs as a bonus to the state's anglers. Only a few of the state's lakes have water temperature cool enough and with a sufficient supply of oxygen to support trout. Trout fishermen on most of these lakes enjoy a year-around season and are not required to have a trout license. The main exception is South Holston Reservoir, where there is a closed season and a trout license is required.

Her first question: "How are my birds?"

MY MOM'S MENAGERIE

By STEVE PRICE
Univ. of North Carolina, Chapel Hill

Photos by Leonard Lee Rue III

MY Mom's menagerie started the day she sent me to the grocery store for 10 pounds of bird seed instead of a loaf of bread. I didn't really pay any attention to it then, but when I began making more trips to the store for bird seed than for groceries, I knew something was going on.

That first bag of bird seed was eaten about five years ago, after our family moved to our present home in Clemmons, North Carolina. We had left the house surrounded by pine, maple and dogwood trees, so it was only natural for the area wildlife to continue their daily feeding habits after we moved in.

At first it was only a pet robin. Mom knows him because he has a big scar on his breast, and that first year she succeeded in making him spend the winter in our front yard. Our collie, Flag, and the robin feuded throughout the following spring and summer as each thought the other to be infringing on private domain. The robin would bravely pick leftover food particles from Flag's dinner plate, and in return Flag would lick up all the bread crumbs we threw out for the bird.

In the end the robin won—by a sheer increase in numbers if nothing else. By the beginning of summer we had nearly a dozen of the brown-chested birds living in our yard, as well as a rapidly increasing number of other feathered friends.

But it's funny about Mom's birds—when she leaves, the birds leave too, even though Dad and I keep feeding them. I'll never forget the summer two years later when Mom went to Europe, because the first thing she asked upon her return was, "How are my birds?"

In the spring when all of her chickadees, robins, sparrows, cardinals—you name it—are nesting, Mom is out protecting the young most of the day. The day a blue jay tried to keep the baby sparrows from venturing out of the nest was a memorable one—we had to go for hamburgers that night!

Today when dinner is late, we know Mom is busy with

Mom threatens every youngster in the neighborhood if they disturb her geese.

When they are nesting Mom is out protecting them most of the day.

her Peterson's guide book, trying to identify a new bird. When we hear her laughing while standing at the kitchen sink, we know she is watching two chipmunks chase each other off one another's private territory. When we see her furious and starting out the door with a broom, we know one of the gray squirrels is in the bird feeder again. But an hour later Mom may be out trying to persuade the same squirrel to accept a morsel of food from her outstretched hand.

Our home is built on the shore of a lake, and a pair of Canada geese have been nesting there for years. The goose was wounded once and cannot fly very well, but each spring it is Mom's task to find the nest, and then threaten every youngster in the neighborhood with dire punishment if they disturb it. We usually go without supper again the day the geese bring their young out on the lake for the first time; Mom spends the entire day just watching the goslings and their parents.

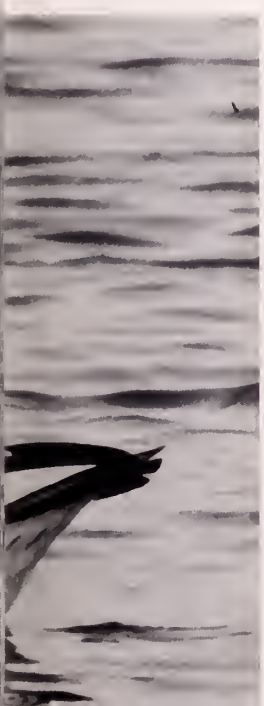
One of Mom's greatest concerns is that the mallards also wintering on the lake are not the good parents that the geese are. Mom grieves every day when the law of attrition has taken another baby duckling—when yesterday she counted seven and today only six.

As long as the lake remains free of ice, Mom feeds the bass, bluegill and bream, too. In the summer when she goes down to swim, "her" fish even follow her along the water's edge, and no one dares to drop a fishing line in along Mom's strip of lakefront.

I guess the greatest days, though, are the rare spring-like days in February when the scarred robin returns. Then Mom excitedly calls Dad at the office to announce the news; or when the chipmunks come out of their winter hibernation and bring their kits to the kitchen door; or when the young gray squirrels climb unsteadily into the bird feeder for the first time.

It's gotten so now I don't mind taking the long way across the front yard so as not to bother the chipmunks, and I don't even mind going to the grocery store for bird seed rather than a loaf of bread.

Mom's mallards are not the good parents that the geese are.



My Boyhood Benefactor: the MUSKRAT

By CARSTEN AHRENS
Pittsburgh

. . illustrated by Karin Ahrens DeStefano . .

WHEN I was a youngster, I, like thousands of other boys, mostly farm boys, looked forward to the opening of the muskrat season. In my state it opened on the Ides of November and closed four months later in mid-March. This was the time for our chance to make pocket money, money for clothes, for Christmas, for some of those fascinating items the mail-order catalogs carried.

That was at least forty years ago but memories of those rigorous days came thronging back yesterday. I was taking an early spring constitutional, sauntering across acres of marshland, a remnant of what was once the great swamp I knew as a boy. A few red-wings protested, a black duck refused to tolerate me and left the scene with annoying quacks. There wasn't a water strider, dragon fly, or whirligig beetle striding, flying, or whirling. Even the frogs were still.

But coming up the open water of a swale and at the apex of an evergrowing, inverted V, swam a muskrat with his head and back part out of the water. The small, unwebbed forepaws took no part in this activity but were held under the chin. The animal seemed to stride through the water, the partly-webbed hind limbs alternating in movement. The tail, instead of steering the animal rudder-fashion, seemed just to drag. The rodent moved leisurely along until he was about to pass; then he was suddenly aware of me even though I stood statue-still. Instantly he dove, the tail suddenly becoming another organ of locomotion, and as the water was shallow, the creature disappeared in a roil of water.

I followed his progress by the stirred-up sediments to a bank where an entrance under water gave access to a tunnel that led upwards to quarters in the soil. Some muskrats are bank dwellers, some cabin or lodge builders, and some seem to use both. These homesteads always have underwater entrances, so the water level of a pond, river, or swamp is of the most vital importance. Too much or too little water can be fatal. Low water takes away the muskrat's security by exposing him to his bird and mammal enemies and to the elements. High water forces him to burrow through the dome of his lodge or to dig upward to the surface above the tunnel. Again he is at the mercy of his environment. When the water subsides, he will repair the escape holes by plugging and plastering with swamp plants and mud.

A lodge may be anchored to a fence post, sunken boat, a duck blind, or it may simply be a pile of swamp vegetation cut off by the long incisors and pulled into a dome-shaped heap in the marsh. These mounds vary greatly in circumstance and in height, from small humps to great mounds several feet high and several yards around. Then out of this debris the rats hollow living rooms and storage space for roots, corms, bulbs, corn-on-the-cob, and other food that will keep for winter. A number of muskrats will huddle together in such a cabin during cold weather. Other animals make use of the lodges. One often sees wild ducks resting on them, and turtles commonly drag themselves from the water to sun on the dome.

In quarters in the cabins or tunnels in the bank is born a litter of from 5 to 8 young, and after the first year, a female may have several litters—as many as 5—during a frost-free season. A young muskrat is weaned in 4 weeks, and about 2 months later he leaves the old home and is on his own. With such population explosion, it's small wonder that these rodents have spread far and wide over the continent.

Trapping muskrats began for me with a dozen Victor traps shortly after I started school, and each fur season I

Prolific, not too hard to catch, and likely to be found in any wetland close to home, the muskrat has enticed generations of American boys into the "fur trade."

Photo by Leonard Lee Rue III

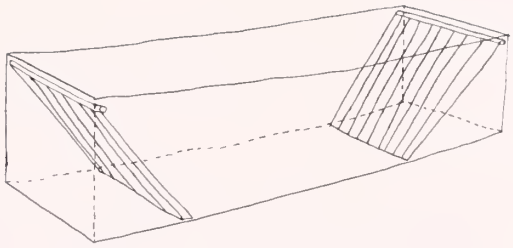
Commission photo by Kesteloo

Skinning is comparatively easy. The skin is simply pulled over the animal's head, inside out.

added another dozen. These are metal traps with strong springs. A trap should always be set, if possible, where the trapped animal will quickly drown; otherwise, it may ruthlessly chew off his own leg in order to escape. Dad never let me set traps unless I agreed to visit them at least once each day.

Trapping is cold work. The spring trap is placed in the entrance of a tunnel that may be a foot or two below in icy water. Another place for the trap is on a mud slide. Muskrats of all ages seem to enjoy time out for sport. One of their favorites is to find a spot from which they can skid into the water. Often a shoulder of the lodge is utilized as a slippery slide, and one after another, grandfathers, uncles, cousins, zip down the slope. I often took advantage of their playfulness by using a hoe to bring up mud to fashion an attractive slide and then bury a trap at its underwater base. By anchoring the trap in deep water, one makes it impossible for the trapped animal to reach the cabin or any spot above water, and the rodent soon drowns. I also used to build wood box-traps with gates that made entrance easy and escape impossible. These snares, when placed in underwater swimways, are the most humane of traps for a muskrat, once inside, drowns immediately.

A muskrat is skinned with comparative ease. With a pocket knife, the skin is cut in a circle where the fur begins at the base of the naked tail and around each hind leg. Then two cuts are made through the hide—one to each hind leg. Now the skin is loosened and simply pulled, inside out, over the animal's body. It may be necessary, occasionally, to use the knife to sever tissue that would hold the pelt to the flesh. Next encircle with the knife each foreleg and pull the limb through, and as the skin is pulled over the head, the knife will ease the passage over the eyes, ears, and



Sketch of author's homemade box trap.

mouth. The skin, still inside-out, is then tautly stretched over a wire or board that has been shaped like a Gothic arch and hung up to dry.

While the muskrat is a rodent, it actually isn't a rat. It is more closely related to the meadow mice than to the Norway and black rats. It by far the largest of mice as an adult will weigh between 2 and 4 pounds. The average life span is about 3½ years.

The many predators that succeed in keeping down their numbers include the domestic dog and cat, plus foxes, mink, raccoons, snapping turtles, owls, and hawks, and, in certain localities, coyotes and alligators. Man, of course, is its constant nemesis. Near my boyhood home are the holdings of the Winous Point Duck Club, which, in one season, reported the taking of 10,191 muskrat pelts.

In areas where the animal is numerous, it becomes a popular dinner meat for late fall, winter, and early spring meals. Often in advertising, the term "swamp rabbit" is used as being more tempting than just plain muskrat. Properly prepared, the flesh is tasty and nutritious.

Muskrats, indigenous to North America, were introduced into Great Britain and the Continent around the turn of this century. In a very short time the animals made themselves at home so completely that they became pests. It was the old story of introducing an exotic species into an area where its old predators were missing. The muskrats damaged canal banks, earthen dams, railroad beds, and pilfered gardens and farms. Since that time most of the invaded countries have waged a campaign to exterminate the rodent. Only in Finland and Siberia has the animal been welcomed and regarded as an important furbearer.

A mount of vegetation pulled into a dome shaped heap in the marsh, with tunnels leading to open water or canals, serves as home.

A ROD IN THE HAND

May Spare the Child

By LOU CAMPBELL
Toledo, Ohio

A cane pole with slightly longer length of line is standard learners' equipment.

"FATHER and son fishing is good insurance against delinquency." I wouldn't quarrel with that statement, although I suspect I'd have played hooky less often if my Dad hadn't introduced me early to the joys of fishing.

This precious relationship is frequently stressed in articles on fishing. "Fishing together forges a comradeship that the boy will remember long after he has grown up." Of course it's true, but whenever I read something like that, I remember the time I slapped Dad in the face with a large bullhead that I pulled up too enthusiastically.

There's a psychological approach, too: "Our society is becoming more and matriarchal." Then it is suggested that you counteract this and help Dad recover some of his lost prestige in an afternoon of fishing with Junior. "It will give him a chance to impart a more masculine outlook, not by direct teaching but just by being himself in a relaxed situation."

Shades of Jung and Freud! But these statements were part of the opening salvo in my wife's campaign to get me to take the boys fishing. "You've got to be close to them when they are little so that when the time comes for the Big Questions they will feel like confiding in you."

I had to agree. But when I finally took them fishing, it was because I wanted them to learn how to catch fish. Today's kids are quick to sense a phony father-confessor setup. Besides, think of the poor father who undertakes a fishing trip with his son for such motives. How is his prestige going to survive if he finds himself suddenly in the water when he leans too heavily on the forked stick he is planting in the bank to support Junior's fishpole? That really happened to me, and it furnished the one bright spot in the kid's day. Because I wasn't after prestige, I could laugh, too. The family even chipped in the following Christmas to replace the watch I had on when I got dunked.

Any father who goes all dewy-eyed on his first fishing trip with his son is likely to come back completely unstrung. He has to be prepared for all contingencies. As one parent to another, let me give you some idea of what I have gleaned from teaching my own and innumerable neighbor children the art of fishing. Rules are the same for boys and girls. In fact, sometimes the girls outfish the boys, as our daughter does.

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First, take them one at a time. And *don't* plan a boat trip. A small child is to a rowboat what Hurricane Annabelle is to the *Ile de France*.

The ideal spot is the bank of a stream or lake where fishable water can be reached with a short rod. A small, low dock is good, but stay as far as you can from other anglers for reasons that will become obvious.

The best thing to do after you have decided to take Junior on his first fishing trip is to make a tour of investigation by yourself beforehand. Shop around for a good spot and after you've picked it, look at it through the boy's eyes. Is there nettle around, or poison ivy? If so, he's more than likely to play Jungle Jim right in the middle of it. (And if you think he'll be too busy fishing to play Jungle Jim, you've got a lot to learn.)

Are there any mudholes nearby? Not that they are dangerous, but there is your wife to face when you get back.

Are there high banks or docks above deep water? It's better to avoid these than to count on firm discipline to keep a child away from them.

What about the time of year most favorable for this first trip? Spring or fall are my choice. Midsummer brings too many discomforts that might turn a child permanently against the idea of fishing: sunburn, mosquito and deerfly bites, chiggers and debilitating heat. And, of course, no father in his right mind would count on introducing Junior to fishing during the winter in spite of the increasing popularity of ice-fishing.

Another good reason for fishing in spring or fall is that fish feed in shallower water and their appetites are more voracious. The chances of taking them from shore are better, and you might as well have the cards stacked in your favor.

Once the place is picked out and the time of year set, it's time to consider the tackle. I have experimented over the years and find good standardized equipment to be a cane pole, or better still, one of the fiber glass telescoping rods about 10 or 12 feet long with a line a few inches shorter. A half-ounce sinker tied to the end and a No. 8 hook on a short leader so that it dangles about three inches above the weight is best. Attach a sliding float which can be set at the surface of the water when in use.

This simple outfit keeps tangles at a minimum, but it won't eliminate them entirely. Our younger boy's first attempt to pull up his line was like a feat of magic. One

second all was well; the next, there was a tangle which would have made the product of an electronic knitting machine look like a simple granny knot. I gave it one look and reached for my knife, cut it off and started from scratch. I heartily recommend this procedure.

Ordinary garden worms are the toughest bait you can get. They stay on the hook and can take a great amount of small boy experimentation and research. (The day you look around to check and find your son kneeling beside the bait can, seeing how far a worm will stretch, is the day you will know what I mean.) Minnows and crawfish are much too fragile.

To get the boy started, it's a good idea to bait his hook for him. Some fathers feel this is undue coddling, but actually, threading a worm on a hook is a most difficult operation for a beginner. I found a neighbor boy close to tears once because he couldn't get the darned old worm to crawl up on the hook. Once Junior learns to *like* fishing, you can conduct lessons on how to bait a hook. Throw his line out for him the first few times, too, and let him concentrate on pulling up when he gets a bite.

Remember that he will accept instructions very literally. If you tell him to pull up easy when he gets a bite, he will lift the rod so slowly that hooking a fish is out of the question. If you tell him to give a jerk to set the hook, he will yank the pole so hard—like I did with my bullhead—that you will have to duck or else go hunting in the bushes for the fish, providing he didn't yank the hook right out of the fish's mouth. It's much better to demonstrate and let him practice a few times.

By so doing you will avoid my brother's experience. His youngster "hauled in" his fish by turning his back, putting the pole over his shoulder and galloping away as fast as his sturdy little legs would go. Behind him, like a can tied to a dog's tail, his catch bounced over the ground.

I neglected to mention that in picking your fishing site you should choose one that is out in the open, away from trees and utility wires which are really for the birds. A friend confided to me one day that he was always puzzled by the hooks, lines and sinkers dangling from tree branches near a stream—that is, until he took his boy fishing for the first time. If your boy does get his line tangled in something overhead, don't bother to disengage it; simply cut it off and start over.

Perhaps this is superfluous, but it is better not to try to do any fishing yourself. This is the lad's day, and you will be busy enough with minor tangles and (we hope) baiting the hook. Of course, if he gets tired and goes off for a little exploring or tree climbing, you might catch one or two surreptitiously. I have even put a fish on a boy's hook and then called his attention to the fact that he has a bite! This is a time-honored practice.

What kind of fish should you try for? Anything that will bite—shiners, carp, bullheads, sunfish, crappies. It doesn't matter so long as it's a fish. If it's a trash species, let him keep it. If it's a game fish but too small, explain why he is not allowed to keep it and then let him release it himself. Conservation is best taught in small doses.

(Continued on next page)

Putting a worm on the hook is easier than it looks.

Rod in the Hand (Continued from previous page)

Above all, let *him* do the fishing. I don't care if a fish threatens to haul the pole in while he's gone back for a sandwich. Sit on your hands and yell to him to come a-running. And no matter what happens, even if you are sure he will lose the fish, don't take the pole from him. I did that once when one of the boys was wrestling with a big perch. "But, Dad," he mourned later, "I didn't catch it. You did." I didn't wait for New Year's Day to make a resolution.

Keep close to your base of supplies, the family car. You will find the intervals between "I'm hungry" and "I wanna drink" are short. And a change of shoes and socks are always necessary when feet get wet. Notice I didn't say "if" but "when."

If the boy wants to help you carry things to the fishing spot when you first arrive, let him tote only the least vulnerable articles, such as sweaters, lunches, etc. I witnessed a very tense drama one time. A father arrived with his youngster and chose the spot next to the one where I was fishing. The boy was the eager-beaver type and in two minutes I could tell that the father was a perfectionist—fine looking gear, everything in its place. The boy picked up his Dad's beautiful big tackle box and started running to the bank. He stumbled and fell and the box flew open, scattering the contents over several square feet.

I held my breath. The boy just stood there, eying his Dad fearfully. The father paled, but never said a word. He just bent over and picked up handfuls of sinkers, hooks, dirt, grass, floats, spare reels and lures and plumped them unceremoniously into the bottom of the box. "We've got a job to do when we get home," he said. I truly admired that father. It is well to remember not to lose your temper, as boys don't forget easily.

As a member of a speaker's bureau, I have given many talks on fishing at father and son banquets. The boys invariably crowd around afterwards to ask questions, and I make a point of getting their reactions to the pop and offspring fishing trips. These are their principal complaints:

1. "Dad thinks I should sit still all the time." (Imagine!)
2. "He doesn't want me to throw things in the water." (Personally I believe a child gets a great release out of throwing rocks or sticks in the water. Even his own hobber!)
3. "He gets mad when I tangle my line." (I'll bet Dad gets backlashes, too.)
4. "He doesn't think I should eat so often." (Ornithological note: a young bird eats its own weight every day.)
5. "He never wants to go home." (This is one of the commonest complaints. A youngster's span of attention is about one-fourth that of the ordinary adult fisherman. A couple of hours is plenty.)

And there you have it, Dad. All these little tips add up to one basic rule: put yourself in a child's place when you take him fishing. If you do and if he learns to like it, you won't have to worry about your prestige or his memories in later years. When he brags to the kid next door, "My Dad took me fishing yesterday," you'll know you've done a good job and the psychology involved is very secondary.

Taking a fish off the hook requires a lesson, too.

MR. RINGTAIL

By JIM REPINE
Chester

IT'S damp, cold and dark. Damp because you're standing on the edge of a swamp. Cold because it's night-time in January. Dark because there's no moon and you turned out your light after the dogs disappeared down the creek. You shiver and stand, blindly staring after the dogs. You shiver and listen. You shiver and wait; but all that shivering isn't just the cold. A little too much time goes by and you start to think, maybe it's not going to happen. You begin to feel tense, but not for long.

Ole King, the largest of the three big blueticks, raises his head and loudly splits the cold, winter night apart with an exploding bawl mouth that almost screams—Strike! A deeper, more growling voice joins in as Bear finds the scent and when the puppy adds his excited, high wail, you know from this beautiful bedlam, you're on the trail of the craftiest, gamest old fellow in the woods, Mr. Ringtail.

Masked Bandit, Ringtail, or just plain Coon—he's known well in every state but one, and is as much a part of the American wildlife heritage as Brer Rabbit and Brer Fox. Arakun (his Indian name) has so far been able to stay a step ahead of man's destruction, and his numbers have increased in the past decade. Though a depreciation in the fur market and a resulting loss of interest in hunting and trapping have been a great help, the real credit belongs to the raccoon himself. Courage, intelligence and a remarkable ability to adapt have been the crucial weapons in his struggle with the wasteful insanities of his cousin, *Homo Sapiens*.

Photo by Leonard Lee Rue III

Coon hunting is like a particular religion or politics. If you are born into it, you'll find it very difficult to discover anything else, in outdoor sports, to quite measure up. If you become a convert from some other, perhaps more genteel form of outdoor affliction, you'll be truly hopeless in your zeal. There seems to be a breed of men, just as there are breeds of dogs, perhaps more closely linked to their wild beginnings than others, who find a sort of lustful satisfaction in the sadly haunting though stirring music of a hound chase. It's a near addictive thing and no other hunting offers exactly the same combination of elements.

I like big, registered, bluetick coon hounds. I've had good luck in finding the kind of ability, voice and looks in this breed that suits me, but this is purely personal. There are six registered breeds of coon hounds and many grade dogs but few real coonhounds in either group. However, there are some great dogs in each. The intelligence and instinct to run coon and nothing else; the ability to figure out a track and move it fast enough to force a fair percentage of game to tree before they make it to a den; a born and bred desire to tree and continue to tree, for as long as it takes the hunter to arrive—all of these are basic requirements for a good coon dog, and the man who has this type of dog is in for many nights of pleasure and satisfaction.

There are few places more suited to coons and coon hunting than the eastern half of the Old Dominion. An abundance of creeks and swamps, an ability to thrive in close contact with man, and an apparent upswing in his natural population cycle—combine to make the sport here both productive and easily found. Crop damage to early corn and peanuts is overrated but works nicely to the hunter's advantage. Farmers, who allow no other hunting, often welcome the coon hunter and his dog. There are few areas more congenial to the sport.

The swamp is ringing with the excited, eager baying of the three big hounds as Mr. Coon decides that his twisting, back-tracking tricks are getting him nowhere. He takes off, with surprising speed, down the swamp, hounds in full cry, right on his tail. . . . And then, suddenly, it all stops. Nothing. Silence; and you know that it's here and now this tale will find its outcome. They may have lost him? He may have remembered a trick too slick for even the best veterans; but then it comes. It starts slow. Bear gives just two short chops, but it's enough to let you know he thinks the coon is up. King agrees, with his long, quivering bawl, and, as the puppy joins in, all three begin to do the thing that separates them from all other hunting dogs. In short, staccato chops they are loudly barking "treed."

You fight your way through mud, water and briars, about fifteen minutes, until a huge, vine-covered, old oak comes into view, and you see the dogs trying to climb and barking every breath. You rest awhile and enjoy the spectacle, and when you finally get your breath and take out the flashlight, you shine it up the tree and discover a smooth, round hole: the entrance to Ole Mr. Ringtail's home. And the strange part is, if you're a real coon hunter, you're glad to know this old fellow will be here again some other night. Proud, tired and probably muddy and wet, you lead the dogs back to the truck.

Oh yes. There's one other thing. You have to be just a little crazy.

Bobwhites at Home (Continued from page 5)

hatching. When they are eight weeks old, adult feathering begins to appear on their breasts. They are feathered out completely and of adult size when 16 weeks old. At this age they are about 10 inches in length and weigh 6 or 7 ounces.

Unwittingly my brothers sometimes would run over a nest with the mowing machine while cutting grass in the meadow. No doubt many young were killed but my brothers would see with amazement some little ones, barely dry from hatching, run away and hide in the grass.

My brother's accounts of these incidents made me wish to find and see a nest for myself.

I was never able to do this, but my unremitting search for the bobwhite's nest contributed to my popularity as a companion among my sisters and their beaus.

I was too young for love, but I vicariously experienced it through my sisters' affairs of the heart. Among them I was much in demand as a quasi-chaperon.

When coming home from church on Sunday mornings a sister and her beau paused under the black locust tree, I was careful to wander away to hunt for the bobwhite's nest. Surely, it was nearby, for his call was so close! Finding four-leaf clovers, too, was a believable excuse.

Looking back, I could see them, heads close together, murmuring as they pulled the branches of the locust to break its creamy fragrant bunches.

The peacock, a glamorous relative of the bobwhite, needs graveled walks, velvety lawns, and the classic beauty of white columns as a background for spreading his impressive train. So much is this true that he has become synonymous with vanity and wealth, yet his splendor looks tawdry and out of place in modest surroundings.

Unlike the peacock, the bobwhite's quiet beauty, garbed chiefly in brown and white, fits graciously into any surroundings.

Like true *quality* he is at home anywhere.

It may be the rail fence from which he whistles with the sun catching his brightest colors, or taking his mate's place on the nest. A male usually will assume the entire charge of the brood upon the death of the female, successfully assuming the dual role of father and mother.

Bobwhite represents the dignity and down-to-earth simplicity of a country gentleman, cheerful, hardworking, unassuming, with no false pride but ready to do and dare for his own.

Just as the peacock is an emblem of pride and splendor, the bobwhite is a sign of country life and plenty in the land.

Artists put him in pictures with ripened grain and the colorful fruits of vine and tree to represent a bountiful harvest when earth repays man for his toil.

The cowbird is a most nonchalant mother. She foists her eggs into another bird's nest and flies on her carefree way with no maternal instincts whatever, leaving her young to be cared for by foster parents or the eggs never to be hatched as many birds, having recognized an intruder's egg, build a platform over it as well as their own eggs and begin the laying of another clutch.

The honest bobwhite's only deceits are practiced to protect the family. One such subterfuge, which is practiced at the risk of its own life, I have seen.

My mother and I were following the path across the pasture field when a female bobwhite fell a few feet in front of us, apparently sick or injured.

I ran to pick her up at once, but she fluttered away just as I almost touched her. A few yards farther on she seemed to have another attack and fell in the path until I tried to catch her again, when she quickly recovered and ran down the path to repeat the performance. I thought she had a broken wing and was much concerned. But my mother understood her adroit acting. She said the mother bird had a nest or young close to where she had the first attack and by her crippled flutterings led us away.

I wanted to go back to see the little ones or to find the nest but my mother would not let me. She told me why. "The nest is well-hidden and the little ones will flatten on the ground. You could trample on and destroy either without ever seeing them."

The bobwhite has not the destructive, depredatory habits of many birds.

The crows, with their nostalgic "Caw, Caw! Caw!" which sounded across the meadow, were to me as much a part of fall as the blue mist which filled the valley. But they were anathema to my brothers, who hurled invectives at them during all seasons.

Crows were the pillagers of the corn, which was the staple crop of the farm. Anything that harmed the corn irked my brothers exceedingly.

The crows pulled the sprouting grain as soon as it peeped through the soil in the spring, sometimes ravaging an entire field to the extent that it had to be replanted. This depended upon the size of the field and the number of crows.

During *roasting ear* time they alighted on the stalks, tore open the husks and feasted on the soft, milk-filled kernels in such numbers as to pull the stalks to the ground.

In great flocks they made the same forays on the ripened corn before it was cut and after it was shucked and piled before being hauled to the corn crib.

My brothers made dire threats of guns and poison which were never carried out. They got no farther than making a scarecrow. This the crows eyed inquisitively, but soon posted a lookout while the flock sailed in on burnished black wings to feast and argue . . . and my brothers continued to threaten and swear.

No complaint was made when the covey of quail came to the piled corn beside the shock. They were regarded with pleasure. After all the bobwhites were family, but the crows were quite another thing.

Other members of the crow family with obnoxious characteristics frequented the house and barn premises to the annoyance of my mother. The grackle and jay had the crow's propensity for becoming nuisances but not so much as corn thieves.

My mother said they were egg-robbers, bird and chicken killers. She kept a sharp eye on her young chickens whenever she saw a grackle walking in the yard, its iridescent feathers bronzed in purple and gold. Seeing his dark satanic beauty and impish eye, one easily could believe his dark reputation.

It was harder to believe about the jay. He was so brightly colored and so noisily concerned with everyone's affairs. He screamed raucously at all, especially the cat.

My mother found the blue jay useful as an informer and sometimes joined forces with him.

The mockingbirds had a nest in the cherry tree. Upon hearing the jay, my mother would rush out with the broom.

The cat would be under the cherry tree, tail slowly moving, green eyes lifted to the mocker's nest which was filled with young. At our approach the cat ran—followed by the darting parent birds, the screaming jay, my mother brandishing the broom, and with me running close behind.

For several days there had been no outcries from the jay.

My mother hoped the cat had learned a lesson. Then she sent me to see the baby birds. I could climb the tree but she said I must not touch the nestlings, not even the nest.

But the little mockers were gone—the nest intact. Not a feather was left, not a straw misplaced. Even the parent birds were not to be seen or heard.

When I ran for my mother, she could not make up her mind whether the cat or the jay was the depredator. True, the jay had informed on the cat, but perhaps he was only waiting for a suitable time to take the mockers himself. Bird watchers have caught him in like nefarious business.

My mother was always sure which animal was the predator when she found her almost frying-size chickens still and cold, piled up in the coop, dead for no apparent reason. Only the weasel that lived along the branch killed in so wanton and bloodthirsty a manner. It made frequent forays on her poultry seeking out the smallest hole or crack in the coops through which to slither.

I remembered these incidents when I caught glimpses of the small bobwhites in the field, their soft chipmunk-colored bodies reminiscent of the baby chicks in the yard.

I could understand that their world was a precarious one, inhabited by cats, crows, and weasels—not to mention the snakes which I often saw.

With only their coloration and swiftness for protection I wondered how many survived these predators.

Recently, through the open windows of a school near a wooded hill, I heard a bobwhite call. The pupils bending to the assigned lesson upon their desks slipped away, as did the walls of the room.

Live in my memory comes another time and place.

It is evening. The sun is setting behind the big hill and the shadows have covered the farmhouse. The bobwhite calls again and again.

I am a barefooted, pigtailed youngster waiting in the barnyard for my brothers. They have brought the horses from the fields and are unharnessing them. There are dark bands of sweat on the horses' bodies where the leather harness has laid.

I wait to see the horses drink from the hollowed tree-trunk trough, blowing through velvety nostrils and lips upon the water, then going to roll on the grass before settling down to graze.

I follow my brothers to the kitchen stoop. The dipper clinks against the bucket as they pour water from it into the wash pan. Their sunburned, sweaty faces are grimy with the dirt of the fields. They splash the water upon their faces and dry on the feed-sack towel, with almost as much blowing as did the horses at the trough.

I go inside the kitchen where my mother is preparing the evening meal. Her face is flushed from the heat of the wood-burning old range. I smell the frying meat and the biscuits baking in the oven. On the cook table are custard pies with fresh cherries dropped in their filling. Nearby is a basket of apples for early breakfast frying.

My sisters are setting the table and putting the food upon it. They send me to the springhouse for fresh milk and butter.

When I return the family has gathered about the table for the evening meal. I take my place among them and hear the laughter and talk. The lamp has been lit and their faces are fresh and youthful in its soft glow. Soon the old house creaks as its tired members settle down for sleep.

Lying in bed beside my mother I hear her even breathing.

In the yard a dog barks and from the barn comes the lonely, quavering cry of the owl. I had seen him there in the early mornings, perched under the eaves.

Seeing a mouse or rat, he had swooped down on soft, noiseless wings to grasp the rodent in sharp curving claws. If the rodents became scarce in the barn, my mother had told me he would take the poultry and quail. I shudder in horror at the thought.

The clock in the hall ticks loudly in the silent house. Nestling close to my mother, I feel the joy and contentment that only home and loved ones can bring.

I am too young to know that each ponderous tick marks not time only, but brings demise and change for all.

My brothers never hunted the quail. Along about Thanksgiving, permission was sometimes given relatives or friends from the nearby town to hunt.

When the men came carrying guns and followed by restive black and white dogs and asked the whereabouts of the quail, no one could place them in the field where they usually were seen.

"Oh, any of the fields! Just anywhere they happen to be."

In early dusk the hunters would return. Showing the several bagged bobwhites to us, they offered to share with my mother. She refused. She had never cooked a bobwhite nor even heard of "quail on toast."

Seeing their limp forms still, and so much smaller-looking than when they ran from me in the fields, I was touched with pity and felt deep resentment for the hunters.

More understanding than I, my mother explained to me later that hunters and predatory animals took a toll, but that the other birds in the covey would be the stronger for it.

She said that the hunt offered sport and relaxation. Men got away from the cares of office and desk. They had the pleasure of tramping in the open air through fields left brown by frost and among the trees on which colored leaves still hung.

Later they could do some modest bragging to friends about the way the dogs handled when pointing, and of their own fast, if sometimes inaccurate, shooting at the birds flushing skyward.

There is no other wild bird to which man is more indebted than to the bobwhite. Having the good qualities of most birds and none of the bad characteristics of some, he is a great friend and loved companion of farmers and a gallant adversary for sportsmen. What other can so test a dog's training and ability or a hunter's skill?

If modern farming methods have decreased quail population from that of decades ago, some modern forestry practices have helped quail locally in recent years.

Conservation authorities say that wherever a stand of timber is harvested by block clear-cutting, the block becomes suitable habitat for quail for from five to ten years as the clear-cut block seeds itself naturally in weeds, herbs and bushes.

As these areas grow up, other blocks are cut and thus in some places managed forest land now offers excellent bobwhite habitat in lieu of some of that once found on primitive farm land.

Some farmers purposely leave cover and plant grain for the quail on their own land.

Many preserves have been established where the quail are raised and given ideal habitat and protection.

With the help of so many friends and lovers, they may make a comeback and be as plentiful as they were years ago on my father's farm.

May the bobwhite survive and increase to gladden the ear as he sends his evocative call across the land!

Edited by HARRY GILLAM

Basic Provisions of Firearms Act

The "Gun Control Act of 1968," which became effective December 16, has several provisions which affect the purchase and use of firearms and ammunition by sportsmen. The Act does not require the registration of all existing sporting firearms as some persons have been led to believe. Some of the main provisions of the act are:

1. Firearms may be purchased only in a person's home state or an adjoining state except that an affidavit procedure allows stolen guns to be replaced in the state in which they were stolen.

2. Persons under 21 may not purchase handguns or handgun ammunition and persons under 18 may not purchase any firearm or ammunition.

3. Firearms or ammunition may not be sold to convicted criminals, fugitives from justice, drug addicts or persons prone to mental disorders. The dealer will determine this by asking the buyer.

4. Firearms and ammunition may not be sold to persons in violation of state law or local ordinance in effect at the buyer's place of residence.

5. With the exception of frames and receivers, gun parts and re-loading equipment and supplies are not affected by this Act and may be shipped in interstate commerce as always.

6. Legally possessed guns may be shipped to out-of-state points for purposes of repair and return, or in settlement of estates.

7. Destructive devices such as artillery pieces, machine guns, sawed off shotguns, etc., cannot be sold to private citizens unless such citizens register the weapon and obtain a permit to keep it.

8. All manufacturers, importers, dealers and collectors who buy and sell firearms or ammunition must first obtain a federal license. As a result, ammunition may not be available from some stores which formerly carried it.

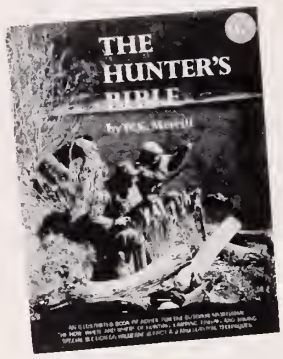
9. Persons who are convicted of committing a felony involving the use of a firearm are subject to a mandatory prison sentence of 1 to 10 years, increasing to 5 to 25 years imprisonment on the second offense.

10. All purchases of firearms or ammunition must be recorded, including the name and address of the purchaser, plus the caliber and quantity purchased.

Virginia Receives NRA Hunter Training Award

Virginia has been recognized by the National Rifle Association with its "50,000 Club Award" for passing the 50,000 mark in the number of hunters graduated from the official NRA-Game Commission course. The Game Commission passed the 25,000 mark in mid-1966. Game Wardens and volunteer instructors conduct the courses which are given primarily to young people in the 19 and under age group that are involved in about half the firearms accidents.

Hunters Bible Gives Wide Range of Information



The Hunters Bible by W. K. Merrill, recently published by Doubleday and Company, gives the hunter a wealth of tips on the sport which range all the way from selecting equipment, to how to use it, to how to take care of himself in the outdoors. Specific chapters deal with unusual hunting opportunities on public lands throughout North America, upland bird hunting, duck and goose hunting, small game hunting, big game hunting, plus where to write for information on equipment and hunting opportunities in your area. One lengthy chapter covers first aid and survival techniques, valuable knowledge for any outdoorsman. The book is one of a series on various sports and sells for $1.95 at most book stores and sporting goods stores.

DDT Decimating Some Bird Populations

University of Wisconsin wildlife scientists have concluded that the chemical DDT, used in plant pest control operations, is wiping out large regional populations of predaceous birds located at the tops of food chains in contaminated ecosystems, the Wildlife Management Institute reports. In their work with herring gull eggs from widely separated colonies in the United States, the scientists have established that shell thickness is correlated precisely with the concentration of DDE, the breakdown product of DDT, within the eggs.

As a breeding species, the peregrine falcon, within the last two decades, has been wiped out in the eastern one half of the United States and has declined drastically in western U. S., Finland, Sweden, Germany, Britain, France, and Switzerland. Along with the unprecedented population crashes of the peregrines, regional numbers of some other raptors have declined sharply on both continents. Bald eagles and ospreys are involved in the U. S. and sparrow hawks and kestrels abroad.

These population nose dives are marked by characteristic reproductive failure in which adult birds accidentally break their thin-shelled eggs and eat them. Wildlife researchers have shown this breakage of egg shells corresponds with a sharp change in shell thickness beginning in 1947, one year after DDT was used generally.

According to the scientists, DDT or DDE stimulates the liver to produce enzymes that break down sex hormones in the blood. Lowered levels of the hormones keep birds from mobilizing calcium needed to develop normal egg shells.

Both DDT and DDE can travel extremely long distances in water or the world's atmosphere. The long-lived chemicals attach to dust particles, are picked up and carried by winds, and return to earth by rain drops or direct fall out. DDE now is considered the most abundant synthetic pollutant in the world's environment.

Edited by ANN PILCHER

Good Farmers and Good Shots

From left, Hunter Richardson, Charles Perkins, and Richard Lloyd were first, second and third place winners in this year's Louisa County High School FFA Wildlife Food Patch Contest. As shooting preserve hunt guests of the Central Virginia Quail Hunters Association, the boys bagged a total of 31 bobwhite quail, according to Game Warden L. R. Buchanan.

On October 14 the Central Virginia Quail Hunters Association was once again host to winners of the annual Wildlife Food Patch contest sponsored by the FFA Chapter, Louisa County High School. Seed for plantings was supplied to FFA members by the Virginia Game Commission. Owners of the three top-rated patches were invited to hunt on the Central Virginia Quail Hunters Association Shooting Preserve. Results of the hunt are shown above.

How The Appomattox FFA Chapter Succeeds at Wildlife Conservation

"Wildlife conservation today demands that everyone get involved in protecting and providing for our wild game," says Jon McCraw, member of the Appomattox FFA Chapter in Appomattox, Virginia. Jon, as winner of the chapter wildlife feed patch contest, believes that getting involved was the big reason for the Appomattox FFA Chapter's success in wildlife conservation during 1967-1968.

"Members of our FFA chapter planted nearly 300 wildlife feed patches throughout the county," explains young McCraw. "Quail, pheasants, deer, rabbits, and squirrels seem more plentiful this year. I think our feed patches really helped."

Chapter members not only planted feed patches, but built 35 squirrel boxes, and raised and released 30 hybrid pheasants throughout the county.

In a campaign to inform the public on wildlife conservation, members prepared and exhibited a wildlife display in a local store, and presented programs on wildlife to local civic clubs.

Jon McCraw and winning wildlife food patch.

One chapter meeting was devoted to discussing wildlife game laws and methods of making hunting more enjoyable for everyone. Every member of the chapter conducted supervised home practice work in wildlife.

Consequently, the Appomattox FFA Chapter was recognized at the 1968 State FFA Convention as the state's most successful chapter in wildlife conservation. And all because, as chapter member Jon McCraw proudly stated, "Everyone got involved."

—*D. W. Torrence*
Agricultural Education Instructor
Appomattox High School

Alleghanians Learn Safe Hunting Principles

This past fall 625 eighth and ninth grade boys and girls attending Alleghany County and Covington High Schools received certificate, arm patch and ID cards signifying successful completion of a 4-hour hunter safety course and examination. Izaak Walton League members, who conducted the course in conjunction with the National Rifle Association and Virginia Game Commission, under the direction of Safety Officer James N. Kerrick, were especially appreciative of the active cooperation of school principals Dusan Cvizic and W. E. Trumbo (who provided classroom time and facilities, furnished projectors and film operators) and of the help of Game Warden F. W. Hanks and Warden Patrol Leader Donald R. Miller.

—*Wallace H. Clark*, Covington IWLA

Instructor Praises Students

One hundred seventy Prince George High School students who completed the hunter safety course taught in October rated high in their final examination. Most students in the six physical education classes finished with grades over 90, having been instructed for one hour on each of four successive days.

"This is the best group of students I've ever had," commented Game Warden Garland Foster, who, with the help of Field Educational Services Coodinator Stuart Newman, presented the course.

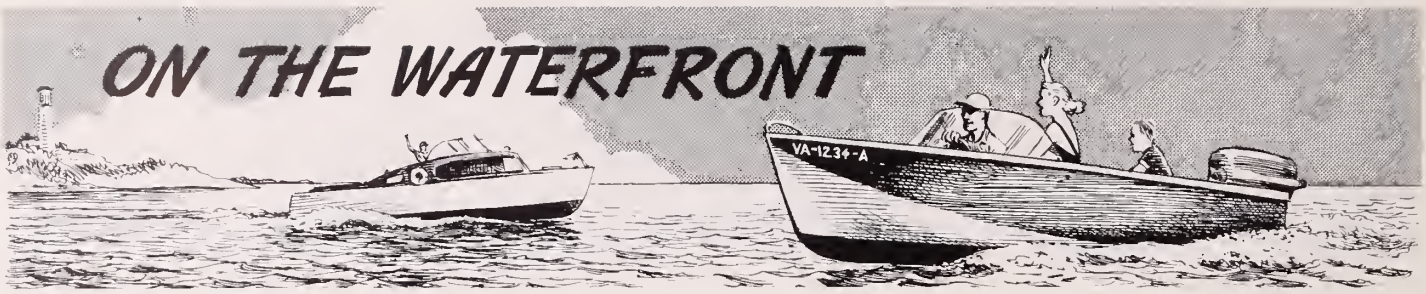
Participants in one of seven hunter safety classes conducted last fall in the Alleghany County and Covington High Schools.

Miller Studio photo, Covington

Youth Conservationist of the Year

Below: At the Governor's conservation banquet last October Senator William Spong presents trophy to Mark W. Clayton of Natural Bridge, named Virginia's 1968 "Youth Conservationist of the Year" in competition sponsored by the Virginia Wildlife Federation and the Sears-Roebuck Foundation. Earlier in the year Mark received the 4-H State Soil and Water Conservation Achievement Award and was named a Virginia representative to the November 4-H Club Congress in Chicago.

Commission photo by Kesteloo



Edited by JIM KERRICK

Choose Permanent Fuel Tanks for Safety, Better Boat Performance

Undoubtedly most boat owners install permanent fuel tanks for convenience—the convenience of not having to lift portable tanks from boat to dock and back, and the convenience of adding hours of extra running time as a result of having greater fuel capacity.

But today permanent fuel tanks are installed for additional compelling reasons, chiefly safety and boat performance.

With permanent tanks, chances of spilling volatile fuel are virtually eliminated. The chance of running out of fuel in a dangerous situation is reduced considerably.

Boat performance is improved because tanks can be strategically located for balance, something that is comparatively easily achieved today with the great variety of shapes and capacities now available. Several basic shapes are shown in the photo. They include square, flat, triangular tapered and oblong, offering a shape to fit virtually any installation condition.

The different shapes allow the tanks to be used in different parts of the boat. Triangular tanks can be used in the bow of the boat when proper support is provided, long flat and tapered tanks can go under the gunwales, flat tanks under seats and other places, and oblong tanks in motor wells.

The fill pipes on these tanks are left unpainted—for a good reason. It is to facilitate proper grounding contact with deck plate fill fitting and avoid a dangerous buildup of static electricity that could cause an explosion. An unpainted hole on the tank flange is also provided for connecting a grounding wire to a special ground plate which should be mounted outside the hull below the waterline to complete the fuel tank grounding system.

By observing these simple procedures, the boatman can avoid explosions that can occur while refueling or during electrical storms.

Variety of attractive shapes.
Photo Courtesy Tempo Products Co.

Buckets, Pails, Containers for Boats, Trailers, Campers

A line of plastic buckets, pails and containers has been designed especially for boats, trailers, campers and other outdoor uses.

All high quality plastic products, they are corrosion, dent and warp proof, easy to clean, lightweight and attractive in modern soft pastel colors.

Photo courtesy Rubbermaid, Inc.

From left in the picture are:

"Camp 'n Sail Pail," a brand new idea for outdoor buckets. Its 13½ quart capacity is ideal for baits, icing beverages and numerous other uses. Features include a big carrying handle and a hand grip in the base for easy pouring. Dimensions are 13¼ x 8¼ x 9¾ inches high.

"Plastic container," for a multitude of uses. Features snap-on lid, sturdy handles, and ribs that hold the bottom off the floor to prevent condensation. Capacity is 10 gallons.

"Boat Bucket and Lid." All purpose rectangular bucket with galvanized bail. Ideal mop size. It has a 14 quart capacity.

"Galley Pail." Snap-on top, convenient carrying handle, ribbed sides and bottom. Capacity is 6 gallons.

"Big Plastic Containers." Ideal for garbage and other waste, temporary bait and fish storage, other uses on larger craft. Each comes with a snap-on, warp-proof lid and strong carrying handles. Two sizes, 32 gallons and 20 gallons.

Bird of the Month:

Snowy Owl

By DR. J. J. MURRAY
Lexington

THE snowy owl is only a casual visitor as far south as Virginia. Nevertheless, in addition to other Virginia reports in the Washington area, we have some 35 records in the files of the Virginia Society of Ornithology. It has been noted from Cobb Island and Back Bay, north and west to Buckingham, Lynchburg, Harrisonburg, Bridgewater, Staunton, Lexington, Roanoke, and Southwest Virginia.

According to Jackson M. Abbott, one was killed by a plane at the National Airport on January 18, 1965. A large female was shot at Harrisonburg, near the airport, on December 4, 1949, and given to Max Carpenter. There is a Scott County record in the winter of 1930-1931. These records run from November 16 (1954, Bridgewater) to February (1950, Arlington), and to as late as March 21 (1950) in southern Maryland.

The first Virginia mention of this bird was by the Reverend John Clayton, vicar of Crofton in Yorkshire, who made a journey to Virginia in 1685 and who wrote about it in 1688 to the Royal Society. Lieutenant (later Colonel) Wirt Robinson saw one in Buckingham County in the winter of 1877. In the winter of 1876-1877, according to Wells W. Cooke, 15 were collected in Arlington County.

One of the most extensive flights of this owl was in 1905-1906, when Ruthven Deane gathered records of around 800 specimens. This was, of course, only a small part of the birds that came down into the United States at that time. In 1926-1927 Dr. A. O. Gross received nearly 2400 records.

In their dispersals these owls wander widely. Dr Alexander Wetmore, in the National Geographic Society's book, *Water, Prey, and Game Birds of North America*, says that it has landed on ships a thousand miles at sea. Its normal range is north to Alaska and Greenland, and south to central Mackenzie and northern British Columbia. It winters irregularly to the Middle States. Stragglers may be found in winter as far south as Louisiana and South Carolina.

These white owls vary in plumage from very lightly to heavily barred with grayish brown or darker brown. The female is more heavily barred than the male. There are no ear tufts, such as some of the owls possess. The eyes are yellow. The snowy owl is about 25 inches in length, with a five foot wingspread. It is active in daylight, especially in the early morning and late afternoon.

The nest is said to be placed in a hollow in frozen ground. The number of grainy white eggs varies greatly, sometimes as few as three, sometimes as many as ten. Few are said to breed after a crash in the population of the lemmings, which is the primary food of these owls. It is then that the birds wander south of their normal range.

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